Abstract

The invention relates to novel soluble pigment precursors possessing not only higher thermal stability but also improved solubility characteristics and to a process for mass colouration of high temperature polymers that utilizes these novel soluble pigment precursors.

The pigment precursors of the invention are essentially of the formula

$$A(B)_x$$
 (I)

where x is an integer from 1 to 8,

A is the radical of a chromophore of the quinacridone, anthraquinone, perylene, indigo, quinophthalone, indanthrone, isoindolinone, isoindoline, dioxazine, azo, phthalocyanine or diketopyrrolopyrrole series, this radical being linked with x B groups via one or more heteroatoms, these heteroatoms being selected from the group consisting of N, O and S and forming part of the radical A, and

B is hydrogen or a group of the formula

although at least one B group is not hydrogen and when x is from 2 to 8 the B groups may be identical or different,

- is oxygen or is selected from the group consisting of methylene, methyleneoxy and ethylene, each member of the group being unsubstituted or substituted by one R₅ or by 2 radicals, R₅ and R₆, or is two separate radicals, R₇ and R₈, R₇ being attached to the same atom as R₁ and R₈ to the same atom as R₄,
- E₂ is selected from the group consisting of methylene, ethylene, propylene and butylene, each member of the group being unsubstituted or substituted by one R₉ or by 2

radicals, R_9 and R_{10} , or is two separate radicals, R_{11} and R_{12} , R_{11} being attached to the same atom as R_1 and R_{12} to the same atom as R_4 ,

- G_1 is O or $N(R_{13})$,
- R₁ is hydrogen, methyl, ethyl, methoxy or ethoxy,
- R₂ and R₃ are independently hydrogen, C₁-C₈alkyl, C₁-C₈alkoxy, C₁-C₈alkoxy-C₂-C₈alkylene or C₁-C₈alkoxy-C₂-C₈alkyleneoxy,
- R₄ is hydrogen, C₁-C₈alkyl, C₁-C₈alkoxy, C₁-C₈alkoxy-C₂-C₈alkylene, C₁-C₈alkoxy-C₂-C₈alkyleneoxy, C₅-C₆cycloalkyl, C₅-C₆cycloalkoxy, phenyl, phenoxy or a 5- or 6-membered, saturated or singly to triply unsaturated heterocyclic radical,
- R_5 , R_6 , R_9 , R_{10} and R_{12} are independently C_1 - C_8 alkyl or C_1 - C_8 alkoxy, or R_6 and R_9 together are a direct bond,
- R₇ and R₈ are independently hydrogen, C₁-C₈alkyl, C₁-C₈alkoxy, C₁-C₈alkoxy-C₂-C₈alkylene or C₁-C₈alkoxy-C₂-C₈alkyleneoxy,
- R₁₁ is hydrogen, C₁-C₈alkyl or C₁-C₈alkoxy,
- R₁₃ is methyl or ethyl, and
- R₁₄ is C₁-C₈alkyl, C₅-C₆cycloalkyl, phenyl or a 5- or 6-membered, saturated or singly to triply unsaturated heterocyclic radical.

Also claimed are some materials pigmented according to the invention.